munostaining for receptor. For those methods that are applicable to formaldehyde-paraffin sections, such studies can be performed retrospectively on materials stored as paraffin blocks. That immunostaining of tissue sections for estrogen receptor is rapid, relatively inexpensive, may be applicable to fixed-paraffin tissues and avoids the sampling problems inherent in cytosol assays is motivation enough to ensure that these studies of possible clinicopathologic correlations are pursued actively.

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Evaluation of Hypoglycemia

ASYMPTOMATIC HYPOGLYCEMIA has been observed frequently enough in control populations of women (17 percent) and men (25 percent) during a five-hour oral glucose tolerance test (OGTT) to be considered a variant of normality. Reactive hypoglycemia—that is, the symptoms of weakness, shakiness, sweating, tremor and tachycardia—may occur two to five hours after a glucose load as the plasma glucose falls below 50 mg per dl, especially in patients who have had gastrointestinal operations or have early diabetes mellitus. These symptoms are due to the adrenergic discharge triggered by the fall in plasma glucose and not the specific level or nadir observed. No clear-cut lower limit of normal plasma glucose values allows the diagnosis of hypoglycemia on the basis of OGTT results alone. These symptoms are often the result of other causes, such as anxiety, hyperthyroidism, pheochromocytoma or insulinoma.

If a patient's symptoms are to be attributed to hypoglycemia, it is important to determine whether they occur in the fasting state or after eating a meal, and not after a glucose load. OGTT is inappropriate for the diagnosis of fasting hypoglycemia, which is generally due to serious organic disease. To document fasting hypoglycemia, a 48- to 72-hour period of fasting should be supervised in the hospital or until hypoglycemia symptoms occur. At this time serum glucose, insulin and C-peptide levels should be determined. If the serum insulin is greater than 6 μU per ml when serum glucose is less than 40 mg per dl, then an insulinoma is most likely. The normal ratio of glucose to insulin should be greater than 3.6. Patients with insulinoma usually have a ratio of less than 2.5. If the serum C-peptide level is low, however, in relation to the serum insulin, then the patient may be taking insulin surreptitiously. If a patient's symptoms are occurring after meals, a meal tolerance test (a standard breakfast after fasting 10 to 16 hours) should be done. Blood samples are taken every half hour for five hours after the meal. If the lowest glucose value exceeds 60 mg per dl, the result is normal. If the value is less than 50 mg per dl, the tolerance test result is abnormal.

Some individuals may have symptoms during the tolerance test, yet the glucose values are normal. It is important to correlate the onset of clinical symptoms with the glucose values observed during the meal tolerance test. Thus it is possible some other factors such as glucagon or gastrointestinal disorders are altered and trigger the symptoms.

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Hair Analysis: A Potential Diagnostic Tool

HAIR CAN BE easily collected from a donor, stored without deterioration and analyzed with great sensitivity with recently developed technologies. Trace elements accumulate at concentrations at least ten times higher than those in blood or urine and may provide a continuous record of nutritional status, exposure to drugs or exposure to pollutants in the environment such as the heavy metals lead and mercury.

The elements and drugs found in hair are incorporated during synthesis of filaments in the follicle. Apparently the disulphide bonds in the cuticular protein of hair are sites for the deposition of metal during hair formation. These bonds are also interaction sites for exogenous metals from air, water, sweat or grooming materials. As the follicles are exposed to more substances